

RESEARCH DEPARTMENT

BROMSGROVE U.H.F. RELAY STATION : SUMMARY OF INSTALLATION

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H Page
for Head of Research Department

This Report uses SI units in accordance with B.S. document PD 5686.

U.H.F. RELAY STATIONS : SUMMARY OF INSTALLATION

NAME: 102.6 BROMSGROVE

TYPE: 1

TRANSMISSIONS COMMENCED: 27.2.67 (TRADE) 13.3.67 (SERVICE)

SITE DATA

LOCATION: Worm's Ash

GRID REFERENCE: SO 948 730

HEIGHT, a.o.d. : 148 m (485 ft)

SUPPORT MAST

TYPE 46 m (150 ft) tower

OVERALL HEIGHT 56 m (185 ft)

FREQUENCIES

BAND: IV

CHANNELS: 21 (BBC-1), 24
27 (BBC-2), 31

RECEPTION

PARENT: Sutton Coldfield

CHANNELS: 40 (BBC-2), 43
46 (BBC-1), 50

POLARIZATION: Horizontal

AERIALS: 2 x 4λ Troughs

AERIAL HEIGHTS: 17.7 m (58 ft)
24.4 m (80 ft)

TRANSMITTERS

TYPE: Pye Klystron, 1 kW

OPERATING POWER: (1) 0.32 kW
(2) 0.81 kW

TRANSMITTING AERIAL

TYPE: Standard Cardioid

RADIATING LENGTH: 16λ

H.R.P. : Fig. 1

V.R.P. : Fig. 2

MEAN HEIGHT: 50.6m (166 ft)

FEEDERS

TRANSMITTING: 48m (158 ft) HF 1⁵/₈
+ 4.5m (15 ft) HF 1⁵/₈
RECEIVING: 33.5m (110 ft) BICC T3
+ 6.7m (22 ft) Un 67

RADIATION CHARACTERISTICS

POLARIZATION: Vertical

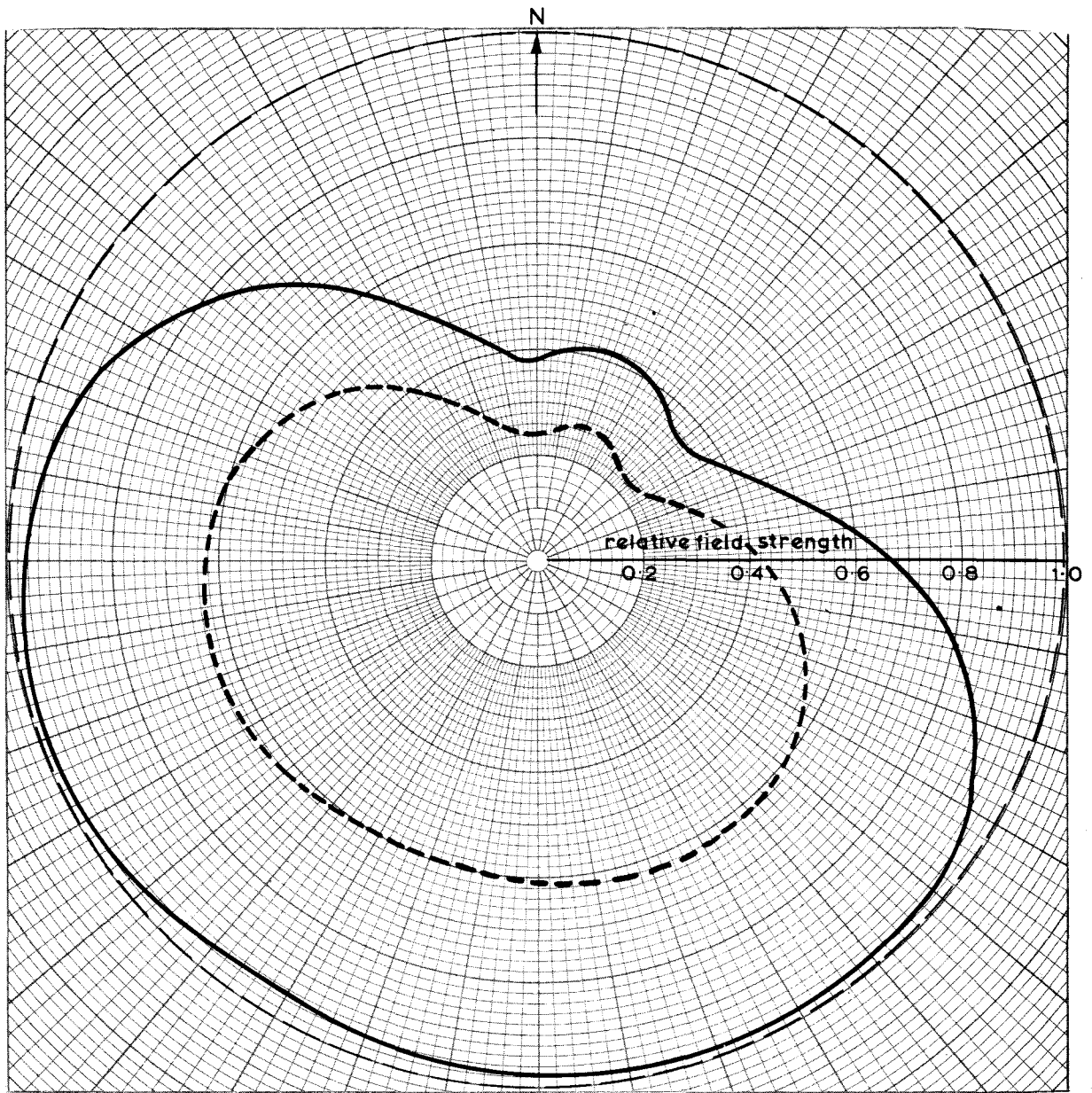
MEAN E.R.P. : (1) 2.5 kW
(2) 6.3 kW

MAXIMUM E.R.P. : (1) 4 kW
(2) 10 kW

NOTES: (1) Initial power

(2) Power increase when either Sandy Heath or Stoke-on-Trent in service.

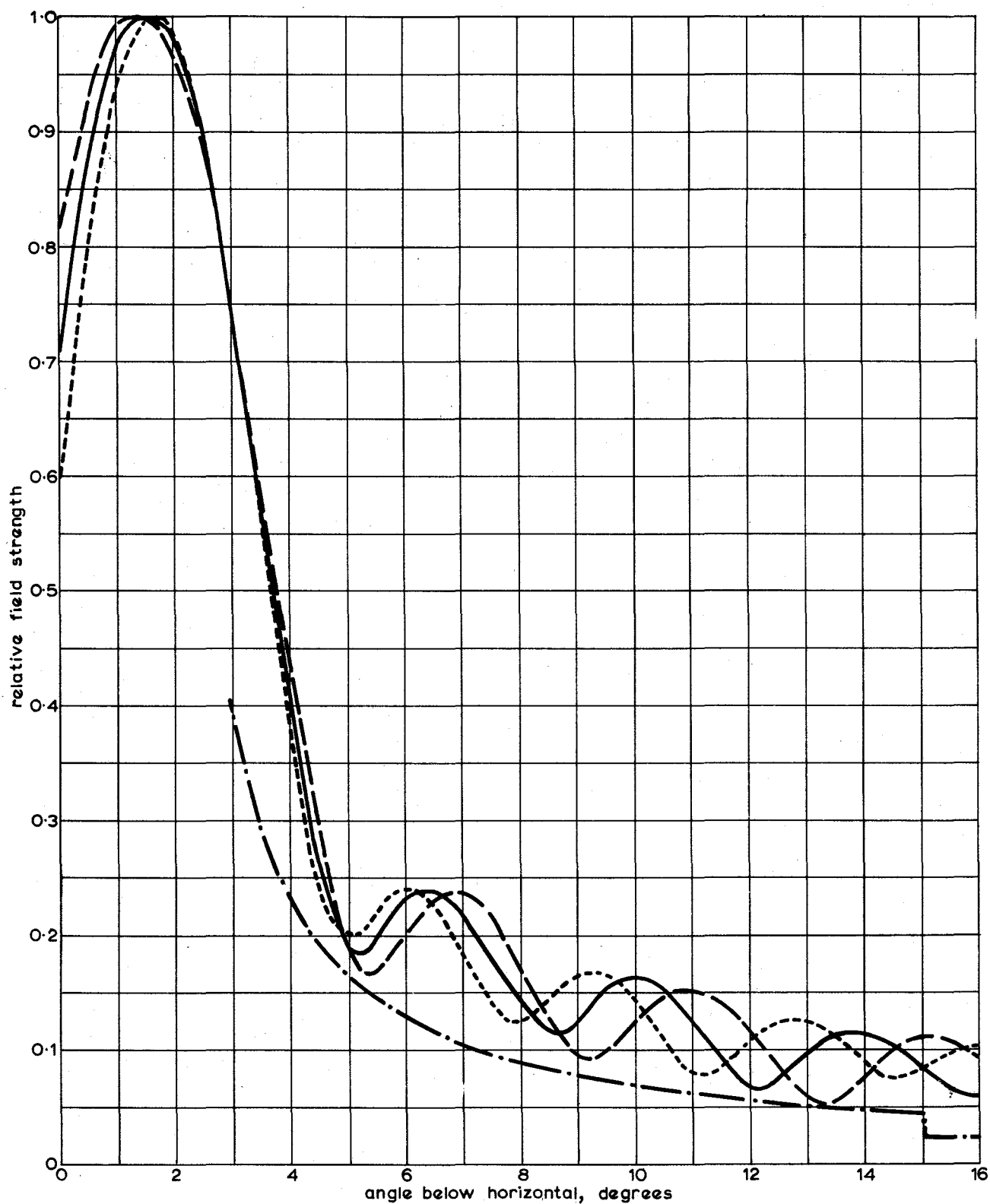
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BROMSGROVE

Fig. 1. Horizontal radiation pattern
VERTICAL POLARIZATION

- Transmitter power: 0.32 kW
Mean E.R.P.: 2.5 kW
 - Transmitter power: 0.81 kW
Mean E.R.P.: 6.3 kW
 - — — Stockholm E.R.P. limit.
- Unit field corresponds to an E.R.P. of 10 kW



BROMSGROVE

Fig. 2. Vertical radiation pattern

- — — — — 475 MHz
- — — — — 528 MHz
- - - - - 580 MHz
- . - . - . - Specified minimum field.